

Form PTO-1449 3		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P24218		Serial No. 10/626,627							
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicant Calvin F. QUATE et al.									
				Filing Date JULY 25, 2003		Group Unknown							
U.S. PATENT DOCUMENTS													
EXAMINER INITIAL		DOCUMENT NUMBER						DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
W		5	8	0	0	9	9	2	09/10/98 05/04/95	FODOR et al.			
		5	9	5	9	0	9	8	09/28/99	GOLDBERG et al.			
		6	0	8	3	6	9	7	07/04/00	BEECHER et al.			
		6	1	3	6	2	6	9	10/24/00	WINKLER et al.			
		6	2	1	5	5	7	9	04/10/01	BLOOM et al.			
	2001	/0	0	1	0	8	4	3	08/02/01	GARNER			
	2002	/0	0	4	1	4	2	0	04/11/02	GARNER			
	2002	/0	0	8	1	5	8	2	06/27/02	GAO et al.			
	2003	/0	0	0	3	0	3	2	01/02/03	GARNER			
	2003	/0	1	3	8	3	6	3	07/24/03	GAO et al.			
W	2003	/0	1	4	3	1	3	1	07/31/03	GAO et al.			
	2003	/0	1	8	6	4	2	7	10/02/03	GAO et al.			
FOREIGN PATENT DOCUMENTS													
		DOCUMENT NUMBER						DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
W		95	/	1	1	9	9	5	05/04/95	W.I.P.O.			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)													
EXAMINER									DATE CONSIDERED				
W									7/05				


*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Application Number	TBD
		Filing Date	Herewith
		First Named Inventor	Calvin F. Quate et al.
		Group Art Unit	TBD
		Examiner Name	TBD
(use as many sheets as necessary)		Attorney Docket Number	003848.000129
Sheet	1	of	4

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
M		US- 4,163,150	07-31-1979	Stankewitz	
		US- 4,662,748	05-05-1987	Hornbeck	
		US- 5,143,854	09-01-1992	Pirung et al.	
		US- 5,318,679	08-07-1994	Nishloka	
		US- 6,384,261	01-24-1995	Winkler et al.	
		US- 5,424,188	06-13-1995	Fodor et al.	
		US- 5,445,934	08-29-1995	Fodor et al.	
		US- 5,510,270	04-23-1998	Fodor et al.	
		US- 5,517,280	05-14-1998	Quate	
		US- 5,539,567	07-23-1996	Lin et al.	
		US- 5,539,568	07-23-1996	Lin et al.	
		US- 5,571,639	11-05-1998	Hubbell et al.	
		US- 5,593,839	01-14-1997	Hubbell et al.	
		US- 5,653,939	08-05-1997	Hollis et al.	
		US- 5,668,190	09-09-1997	Quate et al.	
		US- 5,677,195	10-14-1997	Winkler et al.	
		US- 5,744,305	04-28-1998	Fodor et al.	
		US- 5,768,009	06-16-1998	Little	
		US- 5,883,705	05-16-1999	Minnle et al.	
		US- 5,835,256	11-10-1998	Huibers	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ²
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
1 ✓		WO 97/26569	07-24-1997	Bloom et al		
		WO 99/41007	08-19-1999	Gao et al.		
		WO 99/42813	08-26-1999	Cerrina et al		
		WO 99/63385	12-09-1999	Garner		
		WO 00/13017	03-09-2000	Stahler et al		
		WO 00/47598	08-17-2000	Seo et al.		

Examiner Signature		Date Considered	4/05
-----------------------	---	--------------------	------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

Under the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1448A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	TBD
		Filing Date	Herewith
		First Named Inventor	Calvin F. Quate et al.
		Group Art Unit	TBD
		Examiner Name	TBD
Sheet 3 of 4	Attorney Docket Number	003848.000129	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
N		BEECHER, MCGALL, and GOLDBERG: "Chemically Amplified Photolithography for Fabrication of High Density Oligonucleotide Arrays" Affymetrix, pages 597 and 598. <i>No date provided</i>	
		BEECHER, MCGALL, and GOLDBERG: "The Application of Photolithographic Techniques for the Fabrication of High Density Oligonucleotide Arrays" Affymetrix, 2 pages. <i>No date provided</i>	
		BERTSCH, LORENZ and RENAUD: "Combining Microstereolithography and Thick Resist UV Lithography for 3D Microfabrication" Swiss Federal Institute of Technology (EPFL), pages 18-23. <i>No date provided</i>	
		DAVIDSON, MARK, "A Microlens Direct-Write Concept for Lithography" SPIE Vol. 3048, pp. 346-355, 1997.	
		Digital Optical Chemistry, "The Digital Optical Chemistry System", taken from (http://pomcous.swmed.edu:80/doc) on August 31, 1999, pages 1-8.	
		European Search Report dated December 1, 2000 corresponding to application no. 99110362.3-1213	
		FINK and CHRISTIANSEN, Electronics Engineers Handbook, 3 rd ed., McGraw Hill, (1989), pages 11-96 and 11-99	
		KUCK, BOLLEROTT, DOLESCHAL, GEHNER, GRUNDKE, KUNZE, MELCHER, PAUFLE, SELTMANN, and ZIMMER, "New system for Fast submicron laser direct writing," SPIE, Vol. 2440, pages 506-514. <i>No date provided</i>	
		MCGALL, LABADIE, BROCK, WALLRAFF, NGUYEN, and HINSBERG, "Light-directed synthesis of high-density oligonucleotide arrays using semiconductor photoresists," Proc. Natl. Acad. Sci., Applied Physical Sciences, Vol. 83, November 1996, pages 13555-13560.	
		MONK, DAVID W. et al, "The Digital Micromirror Device for Projection Display" Microelectronic Engineering 27 (1995) pp. 489-493.	
N		PAUFLE, KUCK, SELTMANN, DOLESCHAL, GEHNER, and ZIMMER, "High-throughput optical direct write lithography," Solid State Technology, June 1997, pages 175-182.	

Examiner Signature	<i>N</i>	Date Considered	7/05
--------------------	----------	-----------------	------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.


¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	TBD
		Filing Date	Herewith
		First Named Inventor	Calvin F. Quate et al.
		Group Art Unit	TBD
		Examiner Name	TBD
Sheet 4 of 4	Attorney Docket Number	003848.000129	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
u		PEASE, SOLAS, SULLIVAN, CRONIN, HOLMES, and FODOR: "Light-generated oligonucleotide arrays for rapid DNA sequence analysis" Affymetrix, Proc. Natl. Acad. Sci. USA, vol. 91, May 1994, pages 5022-5026.	
		SELTMANN, DOLESCHAL, GEHNER, KUCK, MELCHER, PAÜFLER, and ZIMMER, "New System for Fast Submicron Optical Direct Writing," Microelectronic Engineering, 30(1996), pages 123-127.	
		Silicon Light Machines, "The Grating Light Valve Technology," taken from (www.siliconlight.com framespresspressbottom.html) April 27, 1997, page 1.	
		Silicon Light Machines, "Recent Press Releases, Silicon Light Machines Spearheads Development of Next Generation Display Technology, Company Addresses Need for higher Resolution Displays in Emerging Market Applications," taken from (www.siliconlight.com framespresspressbottom.html), April 2, 1997, pages 1-3.	
		SINGH-GASSON, GREEN, YUE, NELSON, BLATTNER, SUSSMAN, and CERRINA: "Maskless fabrication of light-directed oligonucleotide microarrays using a digital micromirror array", Nature Biotechnology, vol. 17, October 1999, pages 974-978.	
		SMITH, Modern Optical Engineering, McGraw Hill, (1990), page 152.	
		WALLRAFF, LABADIE, BROCK, DIPIETRO, NGUYEN, HUYNH, HINSBERG, and MCGALL: "DNA sequencing on a chip" Chemtech, February 1997, pages 22-32.	
		YODER, "The State of the Art in Projection Display: An Introduction to the Digital Light Processing (DLP) Technology," Texas Instruments, taken from (www.ti.com/dlp/docs/papers/state.html), April 1997.	

Examiner Signature		Date Considered	7/05
--------------------	---	-----------------	------

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.